

SPECIFICATION AMENDMENTS

Please amend the paragraph starting on page 6, line 5 of the specification to read as follows:

Such expert system engineering approaches include, for example: (1) Pangea Systems Inc.'s (1999 Harrison Street, Suite 1100, Oakland, CA 94612) "EcoCyc database." (www.pangeasystems.com). Information on this database and the other databases can be found on the Internet at the Universal Resource Locators ("URL") indicated. This database's coverage in general includes basic metabolic pathways of the 10 bacterium, *E. coli*; (2) Proteome Inc.'s (100 Cummings Center, Suite 435M, Beverly, MA 01915) "Bioknowledge Library" (www.proteome.com). This is a suite of databases of curated information including in general sequenced genes of the yeast, *S. cerevisiae*, and the worm, *C. elegans*. A number of well-established protein-protein interactions are included; and (3) American Association for the Advancement of Science's (1200 New 15 York Ave. NW, Washington, DC 20005) "Science's Signal Transduction Knowledge Environment" (www.stke.org). This connections map database seeks to document some of the best-established biomolecular interactions in a select number of signal transduction pathways.

Please amend the paragraph starting on page 18, line 13 of the specification to read as follows:

However, numerous indexing services exist to create databases of basic information regarding scientific publications (such as titles, authors, abstracts, keywords, 15 works cited,

etc.). Examples include the National Library of Medicine's "*Medline*" and its Web interface, "*PubMed*" (www.ncbi.nlm.nih.gov/PubMed) Biosis' "*Biological Abstracts*" (www.biosis.org/htmls/products_services/ba.html), the Institute for Scientific Information's "*Science Citation Index*" (www.isinet.com/products/citation/citsei.html) and others. Since these database records are structured they can be used for automated 20 analysis.

Please amend the paragraph starting on page 20, line 2 of the specification to read as follows:

In Table 1, each field of information is placed on a new line beginning with a two- to four-letter capitalized abbreviation followed by a hyphen. For example, the second and third fields in this record (beginning with "AU -[[""]") identify the individual authors of the published article this record refers to. Such author names are extracted directly from the published article. In contrast, the information included in the record's RN fields indicates various chemical or biological molecules this article is concerned with. This meta-data is typically supplied by human indexers (e.g., in the case of Medline records, indexers at the National Library of Medicine, who study each article and assign RN values by selecting from a controlled vocabulary of chemical or biological molecule names).